

December 14, 2004

NORTHERN UTILITIES, INC.,  
for Request Approval of Reorganization --  
Merger (35-A M.R.S.A. 708)

NOTICE OF INVESTIGATION  
INTO NORTHERN UTILITIES INC.'S  
CAST IRON DISTRIBUTION  
PIPE MAINTENANCE AND  
REPLACEMENT PROGRAM

WELCH, Chairman; DIAMOND and REISHUS, Commissioners

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## **I. SUMMARY**

We open an investigation into Northern Utilities, Inc.'s (Northern) cast iron distribution pipe maintenance and replacement program and direct Northern to file its views as described below.

## **II. BACKGROUND**

In Docket No. 2000-322, as a condition of approval of Northern's reorganization during the merger of NiSource and Columbia, the Commission instructed its Gas Safety Engineer, Gary Farmer, to work with Northern to assess the condition of certain vulnerable parts of its system -- in particular its bare steel and small diameter (under 8 inches) cast iron pipes -- and to develop and implement a reasonable program for needed replacements as safety and prudence dictate. Order at 13-14. The Order states that disagreements regarding the reasonable terms of such a program shall be presented to the Commission for resolution.

On December 9, 2004, Staff reported that while Northern did not agree with Mr. Farmer that accelerated cast iron pipe replacement was necessary, it would do so if directed by the Commission so long as a satisfactory revenue recovery mechanism were also approved. The Staff also reported that the Office of the Public Advocate (OPA) wishes to provide the Commission with its views on this matter. Accordingly, Staff suggests that we open an investigation to determine what are reasonable terms for Northern's cast iron pipe replacement program and what, if any, revenue recovery mechanism should be allowed.

Northern's cast iron pipe has been in the ground for 46 to 110 years. Northern experienced at least 89 broken cast iron mains between 1998 and 2002. The number of breaks fluctuated annually during this period between 9 and 27. Of four incidents<sup>1</sup>

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<sup>1</sup> As defined by 49 CFR 191.3.

significant enough to require reporting that have occurred on the Northern system since 1970, three involved a broken cast iron main. Each cast iron pipe break has the potential of causing an explosion that could result in fatalities, injuries, and significant property damage. The cast iron pipe adjacent to the building that exploded on January 12, 2004 in Lewiston, Maine was found to have cracked and corroded due to graphitization.<sup>2</sup>

The major causes of failure of cast iron pipe are joint leaks, full circumferential cracks or breaks and graphitization. Joint leaks and breaks usually result from earth movement (external loads, subsidence, frost, earthquake, erosion) and are not predictable as to when or where they will occur. Graphitization, which causes cast iron to deteriorate over time, can result in leaks or pipe breaks. The rate of graphitization could be predicted through extensive field testing, but that is economically impractical. It has not been determined whether Northern's cast iron mains may be more susceptible to failure due to climatic conditions than cast iron systems in other states.

We conclude that an investigation into the reasonable maintenance and replacement of Northern's cast iron pipes, as a matter of public safety associated with public utility operation, is warranted at this time.

Accordingly, on or before December 20, 2004, Northern shall file the following information:

1. Its view as to what constitutes an adequate program for cast iron replacement;
2. Whether it could determine the extent to which its cast iron system is graphitized and, if so, what this would cost;
3. How it would propose to achieve a complete change out of all cast iron distribution facilities within 10 years, if ordered by this Commission; and
4. Why it believes a revenue recovery mechanism would be necessary if directed to replace all of its cast iron facilities within 10 years and what mechanism it would propose.

The Hearing Examiner shall establish a schedule for further proceeding in this investigation.

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<sup>2</sup> An electrolytic process by which the iron is removed from the cast metal leaving behind a network of graphite, iron oxide and other elements from the surrounding soil. The corrosion products are much weaker than the base metal, leaving the pipe vulnerable to failure.

Dated at Augusta, Maine, this 14<sup>th</sup> day of December, 2004.

BY ORDER OF THE COMMISSION

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Dennis L. Keschl  
Administrative Director

COMMISSIONERS VOTING FOR:      Welch  
   Diamond  
   Reishus

## NOTICE OF RIGHTS TO REVIEW OR APPEAL

5 M.R.S.A. § 9061 requires the Public Utilities Commission to give each party to an adjudicatory proceeding written notice of the party's rights to review or appeal of its decision made at the conclusion of the adjudicatory proceeding. The methods of review or appeal of PUC decisions at the conclusion of an adjudicatory proceeding are as follows:

1. Reconsideration of the Commission's Order may be requested under Section 1004 of the Commission's Rules of Practice and Procedure (65-407 C.M.R.110) within 20 days of the date of the Order by filing a petition with the Commission stating the grounds upon which reconsideration is sought.
2. Appeal of a final decision of the Commission may be taken to the Law Court by filing, within **21 days** of the date of the Order, a Notice of Appeal with the Administrative Director of the Commission, pursuant to 35-A M.R.S.A. § 1320(1)-(4) and the Maine Rules of Appellate Procedure.
3. Additional court review of constitutional issues or issues involving the justness or reasonableness of rates may be had by the filing of an appeal with the Law Court, pursuant to 35-A M.R.S.A. § 1320(5).

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